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4	FÖRM PTO-1449 (Rev. 2-32)	U.S. Department of Commerce Patent and Trademark Office	Atty. Docket No.	Serial No.
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## **U.S. PATENT APPLICATION DOCUMENTS**

January 12, 2004

Examiner Initial		Document Number	Filing Date	Name	Class	Subclass	Publication Date if - Appropriate
M	•	09/226,044	07/12/01	Hoffman et al.			
	•	10/151,116	05/17/02	Matulic-Adamic et al.			
	٠	10/201,394	08/13/01	Vargeese et al.			
NA	•	10/287,949	11/04/02	Pavco			
Sh	•	10/306,747	11/27/02	Pavco			·
W	*	10/427,160	04/30/03	Vargeese et al.		· · · · · · · · · · · · · · · · · · ·	
11	*	10/438,493	05/15/03	Pavco et al.			
	٠	10/444,853	05/23/03	McSwiggen et al.			
	*	10/664,668	09/18/03	McSwiggen et al.			
	٠	10/664,767	09/16/03	McSwiggen et al.			
~	٠	10/665,255	09/16/03	McSwiggen et al.			
100 m	*	10/665,951	09/18/03	McSwiggen et al.			
	*	10/670,011	09/23/03	McSwiggen et al.			
	٠	10/693,059	10/23/03	McSwiggen et al.			
	•	10/712,633	11/13/03	McSwiggen et al.			
	•	10/720,448	11/24/03	McSwiggen et al.			

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EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication.

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$\square \mathcal{V} b$	/ ·	10/727,780	12/03/03	Vaish et al.	
	*	10/757,803	01/14/04	McSwiggen et al.	
	•	10/758,155	01/12/04	McSwiggen et al.	
	•	10/764,957	01/26/04	McSwiggen et al.	
	•	10/831,620	04/23/04	McSwiggen et al.	
	*	2001/0007666	07/12/01	Hoffman et al.	
		2002/0130430	09/19/02	Castor	·
	7.	2004/0037780	02/06/04	Parsons et al.	
	1.	60/082,404	04/20/98	Thomspon et al.	
	•	60/334,461	11/30/01	Pavco	
	•	60/358,580	02/20/02	Beigelman et al.	
	•	60/363,124	03/11/02	Beigelman et al.	
		60/386,782	06/06/02	Beigelman et al.	
	•	60/393,796	07/03/02	McSwiggen et al.	
	•	60/399,348	07/29/02	McSwiggen et al.	
		60/402,996	08/13/02	Usman et al.	
	•	60/406,784	08/29/02	Beigelman et al.	
	•	60/408,378	09/05/02	Beigelman et al.	•
	7.	60/409,293	09/09/02	Beigelman et al.	

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FORM PTO-1449 (Rev. 2-32)		epartment of Commerce nt and Trademark Office	Atty. Docket No.	Serial No.		
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M.	60/440,129	01/15/03	Beigelman et al.		
ar.	60/543,480	02/10/04	Jadhav et al.		

#### **U.S. PATENT DOCUMENTS**

Examiner Initial		Document Number	Date	Name	Class	Subclass	Filing Date if Appropriate
	٠	4,501,729	02/26/85	Boucher et al.			
	•	5,138,045	08/11/92	Cook et al.			
	•	5,214,136	05/25/93	Lin et al.			
	٠	5,334,711	08/02/94	Sproat et al.			
		5,624,803	04/29/97	Noonberg et al.			
	•	5,627,053	05/06/97	Usman et al.			
	•	5,631,360	05/20/97	Usman et al.			
	•	5,670,633	09/23/97	Cook et al.		<u> </u>	
	٠	5,672,695	09/30/97	Eckstein et al.			
	•	5,716,824	02/10/98	Beigelman et al.			
	٠	5,792,847	08/11/98	Buhr et al.			·
	•	5,804,683	09/08/98	Usman et al.			
	•	5,814,620	09/29/98	Robinson et al.			

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EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication.

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	FORM PTO-1449 (Rev. 2-32)		449	INFORM	U ATION DISCLOS ENT BY APPLIC		Atty. Docket I 02-742-N (400/142)	No.	Serial No. 10/758,155	
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		$^{\prime}/\perp$	*	5,831,071	11/03/98	Usman et al.				
		0	•	5,854,038	12/29/98	Sullenger et al.				
			•	5,889,136	03/30/99	Scaringe et al.				
			•	5,898,031	04/27/99	Crooke				
			•	5,902,880	05/11/99	Thompson			_	
	-		•	5,998,203	12/07/99	Adamic et al.				
			*	6,001,311	12/14/99	Brennen				
			•	6,005,087	12/21/99	Cook et al.				
			•	6,008,400	12/28/99	Scaringe et al.			•	
I			*	6,054,576	04/25/00	Bellon et al.				
			•	6,107,094	08/22/00	Crooke				
I			*	6,111,086	08/29/00	Scaringe et al.				
ı			•	6,117,657	09/12/00	Usman et al.				
Ĭ			•	6,146,886	11/14/00	Thompson et al.				
		,	•	6,153,737	11/28/00	Manoharan et al.				
			•	6,162,909	12/19/00	Bellon et al.				
			•	6,180,613	01/30/01	Kaplitt et al.				
I		,	•	6,235,310	05/22/01	Wang et al.				
			•	6,248,878	06/19/01	Matulic-Adamic et al.				
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1	h	•	6,300,074	10/09/01	Gold et al.					
		٠	6,303,773	10/16/01	Bellon et al.					
		٠	6,335,434	01/01/02	Guzaev et al.					
		•	6,353,098	03/05/02	Usman et al.					
		•	6,362,323	03/26/01	Usman et al.					
		•	6,395,713	05/28/02	Beigelman et al.					
		•	6,437,117	08/20/02	Usman et al.					
		٠	6,447,796	09/10/02	Vook et al.					
		•	6,469,158	10/22/02	Usman et al.					
L		•	6,476,205	11/05/02	Buhr et al.					
		*	6,506,559	01/14/03	Fire et al.					
		•	6,528,631	03/04/03	Cook et al.					
		•	6,565,885	05/20/03	Tarara et al.			·		
		•	6,582,728	06/24/03	Platz et al.					
<u></u>		*	6,586,524	07/01/03	Sagara					
		·	6,592,904	07/15/03	Platz et al.					
				FORE	IGN PATENT DOCUMENTS					
			Document	Date	Country	Class	Subclass	Translation		
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FORM PTO-1449 (Rev. 2-32)	U.S. Department of Commerce Patent and Trademark Office	Atty. Docket No.	Serial No.
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1						 Yes	No
JE T	1	4037501	08/03/00	AU (Kreutzer et al.)			
	•	2,359,180	08/03/00	CA (Kreutzer et al.)			
	•	1144623	08/03/00	EP (Kreutzer et al.)			
		89/02439	03/23/89	WO (Arnold et al.)			
	*	90/14090	11/29/90	WO (Gillespie et al.)			
	*	91/03162	03/21/91	WO (Rossi et al.)			
		92/07065	04/30/92	WO (Eckstein et al.)			
	/ •	93/15187	08/05/93	WO (Usman et al.)			
	4.	93/23569	11/25/93	WO (Draper et al.)			
V		94/02595	02/03/94	WO (Sullivan et al.)			•
	•	94/01550	01/20/94	WO (Agrawal et al.)			
		95/06731	03/09/95	WO (Usman et al.)			
	•	95/11910	05/04/95	WO (Dudycz et al.)			
	•	96/10390	04/11/96	WO (Ansell et al.)			
	•	96/10391	04/11/96	WO (Choi et al.)			
	•	96/10392	04/11/96	WO (Holland et al.)			
	•	96/18736	06/20/96	WO (Beigelman et al.)			
1	7.	97/26270	07/24/97	WO (Wincott et al.)	,		

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FORM PTO-1449 (Rev. 2-32)	U.S. Department of Commerce Patent and Trademark Office	Atty. Docket No.	Serial No.
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< XV	<del>ا</del> ٠	98/13526	04/02/98	WO (Woolf et al.)			
	•	99/07409	02/18/99	WO (Deschamps de Pailette et al.)			
	•	99/14226	03/25/99	WO (Wengel et al.)			
	•	99/31262	06/24/99	WO (Barry et al.)			
	•	99/32619	07/01/99	WO (Fire et al.)			
	•	99/49029	09/30/99	WO (Graham et al.)			
	•	99/53050	10/21/99	WO (Waterhouse et al.)			
	•	99/54459	10/28/99	WO (Thompson et al.)			<del></del>
4	•	99/61631	12/02/99	WO (Heifetz et al.)			
TV	1.	00/01846	01/13/00	WO (Plaetinck et al.)			
	•	00/44895	08/03/00	WO (Kreutzer et al.)			
	•	00/44914	08/03/00	WO (Li et al. )			
	•	00/49035	08/24/00	WO (Sheen)			
4	1.	00/53722	09/14/00	WO (O'Hare et al.)	<u> </u>		1.
17	1	00/63364	10/26/00	WO (Pachuk et al.)			
72	1.	00/66604	11/09/00	WO (Wengel et al.)			
1/2		01/04313	01/18/01	WO (Satishchandran et al.)			
1	٠	01/29058	04/26/01	WO (Mello et al.)			
de	1.	01/36646	05/25/01	WO (Zernicka-Goetz et al.)		<u> </u>	<b>†</b>

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		January 12, 2004	

Jihr	•	01/38551	05/31/01	WO (Grossniklaus et al.)		
	·	01/42443	06/14/01	WO (Churikov et al.)		
	٠	01/49844	07/12/01	WO (Driscoll et al.)		
	٠	01/53475	07/26/01	WO (Cogoni et al.)		
	•	01/68836	09/20/01	WO (Beach et al.)		
	٠	01/70944	09/27/01	WO (Honer et al.)		
ļ.	•	01/70949	09/27/01	WO (Graham et al.)		
	•	01/72774	10/04/01	WO (Deak et al.)		
	•	01/75164	10/11/01	WO (Tuschl et al.)		
	1.	01/92513	12/06/01	WO (Amdt et al.)		
	•	01/96584	12/20/01	WO (Mushegian et al.)		
	•	02/055692	07/18/02	WO (Kreutzer et al.)		
	*	02/055693	07/18/02	WO (Kreutzer et al.)		
	•	02/22636	03/21/02	WO (Bennett et al.)		
	•	02/38805	05/15/02	WO (Echeverri et al.)		
1	•	02/44321	06/06/02	WO (Tuschl et al.)		
10	·	02/096927	12/05/02	WO (Pavco)		
V	٠	03/24420	03/27/03	WO (Alheim et al.)		1
1	•	03/46185	06/05/03	WO (Wang et al.)	1	

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		McSwiggen et al.	
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		January 12, 2004	

	•	03/47518	06/12/03	WO (Wang et al.)	
	•	PCT/US02/15876	05/20/02	Beigelman et al.	_
	•	PCT/US02/17674	05/29/02	WO (Pavco et al.)	
	•	PCT/US03/05022	02/20/03	WO (McSwiggen et al.)	
	/.	PCT/US03/05028	02/20/03	McSwiggen et al.	
PZ	•	PST/US03/05346	02/20/03	McSwiggen et al.	
MA		WO 03/064625	02/03/03	WO (Woolf et al.)	
JM	•	WO 03/064626	02/03/03	WO (Woolf et al.)	
U	•	WO 03/030989	04/17/03	WO (Behar et al.)	
	*	WO 03/043689	05/03/03	WO (Behar et al.)	
	^•	WO 04/013280	05/26/03	WO (Davidson et al.)	

# OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc).

8	1	Adah et al., "Chemistry and Biochemistry of 2',5'-Oligoadenylate-Based Antisense Strategy," Current Medicinal Chemistry, 8, 1189-1212 (2001)
	•	Aiello et al., "Vascular Endothelial Growth Factor in Ocular Fluid of Patients with Diabetic Retinopathy and Other Retinal Disorders," The New England Journal of Medicine 331(22):1480-1487 (1994)
	٠	Akhtar and Juliano, "Cellular Uptake and Intracellular Fate of AntiSense Oligonucleotides," Trends Cell Biol. 2:139-144 (1992
	•	Aldrian-Herrada et al., "A peptide nucleic acid (PNA) is more rapidly internalized in cultured neurons when coupled to a retro-inverso delivery peptide. The antisense activity depresses the target mRNA and protein in magnocellular oxytocin neurons," Nucleic Acids Research 26:4910-4916 (1998)
_ / ' "	/	

EXAMINER	DATE CONSIDERED	

FORM PTO-1449 (Rev. 2-32)	U.S. Department of Commerce Patent and Trademark Office	Atty. Docket No.	Serial No.
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	INFORMATION DISCLOSURE STATEMENT BY APPLICANT	(400/142)	
	(Use several sheets if necessary)		
		Applicant:	
		McSwiggen et al.	
		Filing Date:	Group:
		January 12, 2004	

_		
VI	•	Allshire, "RNAi and Heterochromatin - A Hushed-up Affair," Science 297:1818-1819 (2002)
	*.	Andrews and Faller, "A rapid micropreparation technique for extraction of DNA-binding proteins from limiting numbers of mammalian cells," Nucleic Acids Research 19:2499 (1991)
	•	Autiero et al., "Role of PIGF in the intra- and intermolecular cross talk between the VEGF receptors Flt1 and Flk1," Nature Medicine, 9:936-943 (2003)
	*	Baenziger and Fiete, "Galactose and N-Acetylgalactosamine-Specific Endocytosis of Glycopeptides by Isolated Rat Hepatocytes," Cell 22:611-620 (1980)
	•	Bahramian et al., "Transcriptional and Posttranscriptional Silencing of Rodent $\sigma$ 1(I) Collagen by a Homologous Transcriptionally Self-Silenced Transgene," Molecular and Cellular Biology, 274-283 (1999)
	•	Bannai et al., "Effect of Injection of Antisense of Oligodeoxynucleotides of GAD Isozymes into Rat Ventromedial Hypothalamus on Food Intake and Locomotor Activity," <u>Brain Research</u> 784:305-315 (1998)
	•	Bannai et al., "Water-absorbent Polymer as a Carrier for a Discrete Deposit of Antisense Oligodeoxynucleotides in the Central Nervous System," <u>Brain Research Protocols</u> 3:83-87 (1998)
	•	Bass, "The short answer," Nature 411:428-429 (2001)
	•	Bass, "Double-Stranded RNA as a Template for Gene Silencing," Cell, 101, 235-238 (2000)
	•	Beaucage and Iyer, "The Functionalization of Oligonucleotides Via Phosphoramidite Derivatives," Tetrahedron 49:1925-1963 (1993)
	•	Beigelman et al., "Chemical Modification of Hammerhead Ribozymes," The Journal of Biological Chemistry 270:25702-25708 (1995)
	٠	Bellon et al., "Amino-Linked Ribozymes: Post-Synthetic Conjugation of Half-Ribozymes," Nucleosides & Nucleotides 16:951-954 (1997)
X	٠	Bellon et al., "Post-synthetically Ligated Ribozymes: An Alternative Approach to Iterative Solid Phase Synthesis," Bioconjugate Chem. 8:204-212 (1997)

EXAMINER /	DATE CONSIDERED	161	K
		<del>- 22</del>	<u> </u>

Sheet 11 of 29

FORM PTO-1449 (Rev. 2-32)	U.S. Department of Commerce Patent and Trademark Office	Atty. Docket No.	Serial No.
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•	,	Applicant:	
		McSwiggen et al.	•
		Filing Date:	Group:
		January 12, 2004	

$\sim$		
X	•	Berkman et al., "Expression of the Vascular Permeability Factor/Vascular Endothelial Growth Factor Gene in Central Nervous System Neoplasms," The Journal of Clinical Investigation, Inc. 91:153-159 (1993)
	•	Bernstein et al., "Role for a Bidentate Ribonuclease in the Initiation Step of RNA Interference," Nature 409:363-366 (2001)
	*	Bettinger et al., "Size Reduction of Galactosylated PEI/DNA Complexes Improves Lectin-Mediated Gene Transfer into Hepatocytes," <i>Bioconjugate Chem.</i> , 10, 558-561 (1999)
	•	Boado et al., "Drug Delivery of Antisense Molecules to the Brain for Treatment of Alzheimer's Disease and Cerebral AIDS," Journal of Pharmaceutical Sciences 87:1308-1315 (1998)
	•	Boado, "Antisense drug delivery through the blood-brain barrier," Advanced Drug Delivery Reviews 15:73-107 (1995)
	•	Brennan et al., "Two-Dimensional Parallel Array Technology as a New Approach to Automated Combinatoria Solid-Phase Organic Synthesis," Biotechnology and Bioengineering (Combinatorial Chemistry) 61:33-45 (1998)
	•	Broaddus et al., "Distribution and stability of antisense phosphorothioate oligonucleotides in rodent bra following direct intraparenchymal controlled-rate infusion," <u>J Neurosurg</u> 88:734-742 (1998)
	*	Brody and Gold, "Aptamers as therapeutic and diagnostic agents," Reviews in Molecular Biotechnology 74:5 13 (2000)
	•	Burger et al., "Experimental Corneal Neovascularization: Biomicroscopic, Angiographic, and Morphologic Correlation," Cornea 4:35-41 (1985/1986)
	•	Burgin et al., "Chemically Modified Hammerhead Ribozymes with Improved Catalytic Rates," Biochemistry 35:14090-14097 (1996) (volume no. mistakenly listed as 6)
	*	Burlina et al., "Chemical Engineering of RNase Resistant and Catalytically Active Hammerhead Ribozymes," Bioorganic & Medicinal Chemistry 5:1999-2010 (1997)
7	-	Caruthers et al., "Chemical Synthesis of Deoxyoligonucleotides and Deoxyoligonucleotide Analogs," Method in Enzymology 211:3-19 (1992)

	_/X			
EXAMINER	WAM	DATE CONSIDERED	7/16	106

FORM PTO-1449 (Rev. 2-32)	U.S. Department of Commerce Patent and Trademark Office	Atty. Docket No.	Serial No.
		02-742-N	10/758,155
	INFORMATION DISCLOSURE STATEMENT BY APPLICANT	(400/142)	
	(Use several sheets if necessary)		
		Applicant:	•
		McSwiggen et al.	
		Filing Date:	Group:
		January 12, 2004	

M	1.	Chen et al., "Multitarget-Ribozyme Directed to Cleave at up to Nine Highly Conserved HIV-1 env RNA Regions Inhibits HIV-1 Replication-Potential Effectiveness Against Most Presently Sequenced HIV-1 Isolates," Nucleic Acids Research 20:4581-4589 (1992)
	•	Chiu et al., "siRNA function in RNAi: A chemical modification analysis," RNA, 9:1034-1048 (2003)
	٠	Choi et al., "Effect of Poly(ethylene glycol) Grafting on Polyethylenimine as a Gene Transfer Vector in vitro," Bull. Korean Chem. Soc., 22, 46-52 (2001)
	*	Chowrira et al., "In Vitro and in Vivo Comparison of Hammerhead, Hairpin, and Hepatitis Delta Virus Self-Processing Ribozyme Cassettes," J. Biol. Chem. 269:25856-25864 (1994)
	•	Clark and Yoria, "Ophthalmic Drug Discovery," Nature, 2, 448-459 (2003)
	•	Clemens et al., "The Double-Stranded RNA-Dependent Protein Kinase PKR:Structure and Function," J. Interferon & Cytokine Res., 17, 503-524 (1997)
	•	Cload and Schepartz, "Polyether Tethered Oligonucleotide Probes," J. Am. Chem. Soc. 113:6324-6326 (1991)
	•	Connolly et al., "Binding and Endocytosis of Cluster Glycosides by Rabbit Hepatocytes," The Journ. of Biol. Chem. 257:939-945 (1982)
	•	Conry et al., "Phase I Trial of a Recombinant Vaccinia Virus Encoding Carcinoembryonic Antigen in Metastatic Adenocarcinoma: Comparison of Intradermal versus Subcutaneous Administration," Clinical Cancer Research 5:2330-2337 (1999)
	٠	Couture and Stinchcomb, "Anti-gene therapy: the use of ribozymes to inhibit gene function," Trends In Genetics 12:510-515 (1996)
	•	Detmar et al., "Overexpression of Vascular Permeability Factor/Vascular Endothelial Growth Factor and its Receptors in Psoriasis," J. Exp. Med. 180:1141-1146 (1994)
		Diebold et al., "Mannose Polyethylenimine Conjugates for Targeted DNA Delivery into Dendritic Cells*," The Journal of Biological Chemistry, 274, 19087-19094 (1999)

EXAMINER	DATE CONSIDERED (96

FORM PTO-1449 (Rev. 2-32)	U.S. Department of Commerce Patent and Trademark Office	Atty. Docket No.	Serial No.
•	INFORMATION DISCLOSURE STATEMENT BY APPLICANT  (Use several sheets if necessary)	02-742-N (400/142)	10/758,155
		Applicant:	
		McSwiggen et al.	
		Filing Date:	Group:
		January 12, 2004	

W	*	Dropulic et al., "Functional Characterization of a U5 Ribozyme: Intracellular Suppression of Human Immunodeficiency Virus Type I Expression," Journal of Virology 66:1432-1441 (1992)
	•	Durand et al., "Circular Dichroism Studies of an Oligodeoxyribonucleotide Containing a Hairpin Loop Made of a Hexaethylene Glycol Chain: Conformation and Stability," Nucleic Acids Research 18:6353-6359 (1990) [sometimes referred to as Seela and Kaiser]
	•	Earnshaw et al., "Modified Oligoribonucleotides as Site-Specific Probes of RNA Structure and Function," Biopolymers 48:39-55 (1998)
	•	Economides et al., Cytokine traps: multi-componetnt, high-affinity blockers of cytokine action," <i>Nature Medicine</i> , 9, 1, 47-52 (2003)
	•	Elbashir et al., "Duplexes of 21-nucleotide RNAs mediate RNA interference in cultured mammalian cells," Nature 411:494-498 (2001)
	•	Elbashir et al., "Functional Anatomy of siRNAs for Mediating Efficient RNAi in Drosophila Melanogaster Embryo Lysate," The EMBO Journal 20:6877-6888 (2001)
	•	Elbashir et al., "RNA Interference is Mediated by 21- and 22-Nucleotide RNAs," Genes and Development 15:188-200 (2001)
	•	Elkins and Rossi, "Ch. 2 - Cellular Delivery of Ribozymes," in Delivery Strategies for Antisense Oligonucleotide Therapeutics, edited by Akhtar, CRC Press, pp. 17-220 (1995)
	٠	Elroy-Stein and Moss, "Cytoplasmic Expression System Based on Constitutive Synthesis of Bacteriophage T7 RNA Polymerase in Mammalian Cells," Proc. Natl. Acad. Sci. USA 87:6743-6747 (1990)
	•	Emerich et al., "Biocompatability of Poly (DL-Lactide-co-Glycolide) Microshperes Implanted Into the Brain," Cell Transplantation 8:47-58 (1999)
	•	Epa et al., "Downregulation of the p75 Neurotrophin Receptor in Tissue Culture and <i>In Vivo</i> , Using β-Cyclodextrin-Adamantane-Oligonucleotide Conjugates," <i>Anitsense Nuc. Acid Drug Dev.</i> , 10:469-478 (2000)

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EXAMINER	molen	DATE CONSIDERED	215	166
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FORM PTO-1449 (Rev. 2-32)	U.S. Department of Commerce Patent and Trademark Office	Atty. Docket No.	Serial No.
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	(USE SEVERAL SHEETS II HECESSALY)	Applicant:  McSwiggen et al.	
		Filing Date: January 12, 2004	Group:

Wy.	•	Erbacher et al., "Transfection and physical properties of various sacccharide, poly(ethylene glycol), and antibody-derivatized polyethylenimines (PEI), <i>The Journal of Gene Medicine</i> , 1, 210-222 (1999) [sometimes incorrectly cited as pages 1-18]
	•	Fava et al., "Vascular Permeability Factor/Endothelial Growth Factor (VPF/VEGF): Accumulation and Expression in Human Synovial Fluids and Rheumatoid Synovial Tissue," J. Exp. Med. 180:341-346 (1994)
	*	Ferentz and Verdine, "Disulfied Cross-Linked Oligonucleotides," J. Am. Chem. Soc. 113:4000-4002 (1991)
	*	Filleur et al., "SiRNA-mediated Inhibition of Vascular Endothelial Growth Factor Severely Limits Tumor Resistance to Antiangiogenic Thrombospondin-1 and Slows Tumor Vascularization and Growth," Cancer Research, 63, 3919-3922 (2003)
	*	Fire et al., "Potent and Specific Genetic Interference by Double-Stranded RNA in Caenorhabditis Elegans," Nature 391:806-811(1998)
	•	Fire, "RNA-triggered Gene Silencing," TIG 15:358-363(1999)
	*	Folkman et al., "Long-term Culture of Capillary Endothelial Cells," Proc. Natl. Acad. Sci. USA 76:5217-5221 (1979)
	•	Folkman, Judah, "Tumor Angiogenesis," Advances in Cancer Research 43:175-203 (1985)
,	•	Freier et al., "Improved free-energy parameters for predictions of RNA duplex stability," Proc. Natl. Acad. Sci. USA 83:9373-9377 (1986) [sometimes referred to as Frier]
	•	Furgeson et al., "Modified Linear Polyethylenimine—Cholesterol Conjugates for DNA Complexation,"  Bioconjugate Chem., 14, 840-847 (2003)
	•	Futami et al., "Induction fo apoptosis in HeLa cells with siRNA expression vector targeted against bcl-2,"  Nucleic Acids Research Supplement, 251-252 (2002)
d	•	Gao and Huang, "Cytoplasmic Expression of a Reporter Gene by Co-Delivery of T7 RNA Polymerase and T7 Promoter Sequence with Cationic Liposomes," Nucleic Acids Research 21:2867-2872 (1993)
	•	Genbank Accession No. AF020393
	•	Genbank Accession No. AF022375

EXAMINER DATE CONSIDERED 7/10/6/	<u> </u>		
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		•	Genbank Accession No. U01134
		•/	Genbank Accession No. X62568
		•	Genbank Accession No. X94216
		•/	Genbank Accession No. Y08736
	n	٠	Godbey et al., "Poly(ethylenimine) and its role in gene delivery," Journal of Controlled Release, 60, 149-160 (1999)
		٠	Godbey et al., "Tracking the intracellular path of poly(ethylenimine)/DNA complexes for gene delivery," <i>Proc. Natl. Acad. Sci. USA</i> , 96, 5177-5181 (1999)
	1	•	Gold et al., "Diversity of Oligonucleotide Functions," Annu. Rev. Biochem. 64:763-797 (1995)

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		Applicant:		
		McSwiggen et al.		
		Filing Date:	Group:	
		January 12, 2004		

	T	
TPM		Gonzalez et al., "New Class of Polymers for the Delivery of Macromolecular Therapeutics," Bioconjugate Chem. 10:1068-1074 (1999)
7	•	Good et al., "Expression of small, therapuetic RNAs in human nuclei," Gene Therapy 4:45-54 (1997)
	•	Grant et al., "Insulin-like growth factor I acts as an angiogenic agent in rabbit cornea and retina: comparative studies with basic fibroblast growth factor," Diabetologia 36:282-291 (1993)
	•	Hall et al., "Establishment and Maintenance of a Heterochromatin Domain," Science 297:2232-2237 (2002)
	•	Hamilton, et al., "A Species of Small Antisense RNA in Posttranscriptional Gene Silencing in Plants," Science, 286, 950-952 (1999)
	٠	Hammond et al., "An RNA-Directed Nuclease Mediates Post-Transcriptional Gene Silencing in Drosophila Cells," Nature 404:293-296 (2000)
	•	Harborth et al., "Sequence, Chemical, and Structural Variation of Small Interfering RNAs and Short Hairpin RNAs and the Effect on Mammalian Gene Silencing," Antisense and Nucleic Acid Drug Development, 13:83-105 (2003)
	٠	Hermann and Patel, "Adaptive Recognition by Nucleic Acid Aptamers," Science 287:820-825 (2000)
	•	Hofland and Huang, "Formulation and Delivery of Nucleic Acids," Handbook of Exp. Pharmacol. 137:165-192 (1999)
	•	Hunziker et al., "Nucleic Acid Analogues: Synthesis and Properties, in Modern Synthetic Methods," VCH, 331-417 (1995)
	٠	Hutvagner and Zamore, "A MicroRNA in a Multiple-Turnover RNAi Enzyme Complex," Science 297:2056-2060 (2002)
	•	Hutvagner et al., "A Cellular Function for the RNA-Interference Enzyme Dicer in the Maturation of the let-7 Small Temporal RNA," Science 293:834-838 (2001)
Q)	•	International Search Report for PCT/US03/05028 mailed October 17, 2003

			1
EXAMINER TO THE STATE OF THE ST	DATE CONSIDERED	7/6	66

**Sheet 18 of 29** 

FORM PTO-1449 (Rev. 2-32)	U.S. Department of Commerce Patent and Trademark Office	Atty. Docket No.	Serial No.
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		McSwiggen et al.	
	·	Filing Date:	Group:
		January 12, 2004	

72			
1	18	•	International Search Report for PCT/US03/05346 mailed October 17, 2003
		*	Ishiwata et al., "Physical-Chemistry Characteristics and Biodistribution of Poly(ethylene glycol)-Coated Liposomes Using Poly(oxyethylene) Cholesteryl Ether," Chem. Pharm. Bull. 43:1005-1011 (1995) (mistakenly referred to as Ishiwataet)
		٠	Izant and Weintraub, "Constitutive and Conditional Suppression of Exogenous and Endogeneous Genes by Anti-Sense RNA," Science 229:345-352 (1985)
		•	Jaschke et al., "Automated Incorporation of Polyethylene Glycol into Synthetic Oligonucleotides," Tetrahedron Letters 34:301-304 (1993) (sometimes mistakenly referred to as Jschke)
		٠	Jayasena, "Aptamers: An Emerging Class of Molecules that Rival Antibodies in Diagnostics," Clinical Chemistry 45:1628-1650 (1999)
		*	Jenuwein, "An RNA-Guided Pathway for the Epigenome," Science 297:2215-2218 (2002)
		*	Jolliet-Riant and Tillement, "Drug transfer across the blood-brain barrier and improvement of brain delivery," Fundam. Clin. Pharmacol. 13:16-26 (1999)
		•	Karle et al., "Differential Changes in Induced Seizures After Hippocampal Treatment of Rats with an Antisense Oligodeoxynucleotide to the GABA Receptor y2 Subunit," <u>Euro. Jour. of Pharmacology</u> 340:153-160 (1997)
			Karpeisky et al, "Highly Efficient Synthesis of 2'-O-Amino Nucleosides And Their Incorporation in Hammerhead Ribozymes," Tetrahedron Letters 39:1131-1134 (1998)
		•	Kashani-Sabet et al., "Reversal of the Malignant Phenotype by an Anti-ras Ribozyme," Antisense Research & Development 2:3-15 (1992)
		٠	Kaspareit-Rittinghausen et al., "Animal Model of Human Disease: Hereditary Polycystic Kidney Disease," Amer. Journ. of Pathology 139:693-696 (1991)
		•	Kim et al., "Inhibition of vascular endothelial growth factor-induced angiogenesis suppresses tumour growth in vivo," Nature 362:841-844 (1993)
	-		

EXAMINER	MM	DATE CONSIDERED	7/15	166

Sheet 19 of 29

FORM PTO-1449 (Rev. 2-32)	U.S. Department of Commerce Patent and Trademark Office	Atty. Docket No.	Serial No.
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		Applicant:	
		McSwiggen et al.	
		Filing Date:	Group:
		January 12, 2004	

<u> </u>	Koch et al., "Vascular Endothelial Growth Factor," Journal of Immunology 152:4149-4156 (1994)
•	Kusser, "Chemically modified nucleic acid aptamers for in vitro selections: evolving evolution," Reviews in Molecular Biotechnology 74:27-38 (2000)
•	Kwak'et al., "VEGF Is Major Stimulator in Model of Choroidal Neovascularization," Investigative Ophthalmology & Visual Science, 41(10), 3158-3164 (2000)
•	Lasic and Needham "The 'Stealth' Liposome: A Prototypical Biomaterial," Chemical Reviews 95:2601-2627 (1995)
•	Lasic and Papahadjopoulos, "Liposomes Revisited," Science 267:1275-1276 (1995)
•	Lee and Larson, "Modified Liposome Formulations for Cytosolic Delivery of Macromolecules," ACS Symposium Series 752:184-192 (2000)
•	Lee and Lee, "Preparation of Cluster Glycosides of N-Acetylgalactosamine That Have Subnanomolar Binding Constants Towards the Mammalian Hepatic Gal/GalNAc-specific Receptor," Glyconjugates J. 4:317-328 (1987)
•	Lee et al., "Expression of Small Interfering RNA's Targeted Against HIV-1 rev Transcripts in Human Cells," Nature Biotechnology 19:500-505 (2002)
•	Leirdal et al., "Gene silencing in mammalian cells by preformed small RNA duplexes," Biochemical and Biophysical Research Communications, 295, 744-748 (2002)
٠	Lepri et al., "Effect of Low Molecular Weight Heparan Sulphate on Angiogenesis in the Rat Cornea after Chemical Cauterization," Journal of Ocular Pharmacology 10:273-281 (1994)
•	L'Huillier et al., "Cytoplasmic Delivery of Ribozymes Leads to Efficient Reduction in α-Lactalbumin mRNA Levels in C1271 Mouse," EMBO J. 11:4411-4418 (1992)
·	Lieber et al., "Stable High-Level Gene Expression in Mammalian Cells by T7 Phage RNA Polymerase," Methods Enzymol. 217:47-66 (1993)
	•

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EXAMINER	DATE CONSIDERED	2/15	06
			/

Sheet 20 of 29

FORM PTO-1449 (Rev. 2-32)	U.S. Department of Commerce Patent and Trademark Office	Atty. Docket No.	Serial No.
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(Use sev	veral sheets if necessary)		
		Applicant:	
		McSwiggen et al.	
		Filing Date:	Group:
		January 12, 2004	

٠	Limbach et al., "Summary: the modified nucleosides of RNA," Nucleic Acids Research 22(12):2183-2196 (1994)
•	Lin and Matteucci, "A Cytosine Analogue Capable of Clamp-Like Binding to a Guanine in Helical Nucleic Acid," J. Am. Chem. Soc. 120:8531-8532 (1998)
٠	Lin et al., "A Novel mRNA-cRNA Interference Phenomenon for Silencing bcl-2 Expression in Human LNCaP Cells," Biochemical and Biophysical Research Communications, 281, 639-644 (2001)
•	Lin et al., "Policing Rogue Genes", Nature 402:128-129 (1999)
*	Lisziewicz et al., "Inhibition of Human Immunodeficiency Virus Type 1 Replication by Regulated Expression of a Polymeric Tat Activation Response RNA Decoy as a Strategy for Gene Therapy in AIDS," Proc. Natl. Acad. Sci. U.S.A. 90:8000-8004 (1993)
٠	Liu et al., "Cationic Liposome-mediated Intravenous Gene Delivery," J. Biol. Chem. 270(42):24864-24870 (1995)
•	Loakes, "The Applications of Universal DNA Base Analogues," Nucleic Acids Research 29:2437-2447 (2001)
*	Ma et al., "Design and Synthesis of RNA Miniduplexes via a Synthetic Linker Approach. 2. Generation of Covalently Closed, Double-Stranded Cyclic HIV-1 TAR RNA Analogs with High Tat-Binding Affinity," Nucleic Acids Research 21:2585-2589 (1993)
•	Ma et al., "Design and Synthesis of RNA Miniduplexes via a Synthetic Linker Approach," Biochemistry 32:1751-1758 (1993)
•	Martinez et al., "Single-Stranded Antisense siRNAs Guide Target RNA Cleavage in RNAi," Cell 110:563-574 (2002)
•	Maurer et al., "Lipid-based systems for the intracellular delivery of genetic drugs," Molecular Membrane Biology 16:129-140 (1999)
•	McCurdy et al., "Deoxyoligonucleotides with Inverted Polarity: Synthesis and Use in Triple-Helix Formation" Nucleosides & Nucleotides 10:287-290 (1991)

EXAMINER	DATE CONSIDERED

FORM PTO-1449 (Rev. 2-32)	U.S. Department of Commerce Patent and Trademark Office	Atty. Docket No.	Serial No.
		02-742-N	10/758,155
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	(Use several sheets if necessary)		
		Applicant:	
		McSwiggen et al.	
		Filing Date:	Group:
		January 12, 2004	

McGarry and Lindquist, "Inhibition of heat shock protein synthesis by heat-inducible antisense RNA," Proc. Natl. Acad. Sci. USA 83:399-403 (1986)
McLaren et al., "Vascular Endothelial Growth Factor (VEGF) Concentrations are Elevated in Peritoneal Fluid of Women with Endometriosis," Human Reproduction 11:220-223 (1996)
McLaren et al., "Vascular Endothelial Growth Factor is Produced by Peritoneal Fluid Macrophages in Endometriosis and Is Regulated by Ovarian Steroids," J. Clin. Invest. 98:482-489 (1996)
McManus et al., "Gene Silencing Using Micro-RNA Designed Hairpins," RNA 8:842-850 (2002)
Mesmaeker et al, "Novel Backbone Replacements for Oligonucleotides," American Chemical Society, pp. 24-39 (1994)
Millauer et al., "Glioblastoma growth inhibited in vivo by a dominant-negative Flk-1 mutant," Letters to Nature 367:576-579 (1994)
Miller et al., "Vascular Endothelial Growth Factor/Vascular Permeability Factor is Temporally and Spatially Correlated with Ocular Angiogenesis in a Primate Model," American Journal of Pathology 145:574-584 (1994)
Miyagishi and Taira, "U6 Promoter-driven siRNAs with Four Uridine 3' Overhangs Efficiently Suppress Targeted Gene Expression in Mammalian Cells," Nature Biotechnology 19:497-500 (2002)
Moore and Sharp, "Site-Specific Modification of Pre-mRNA: The 2'-Hydroxyl Groups at the Splice Sites," Science 256:992-996 (1992)
Mori et al., "Inhibition of Chorodial Neovascularization by Intravenous Injection of Adenoviral Vectors Expressing Secretable Endostatin," American Journal of Pathology, 159(1), 313-320 (2001)
Mori et al., "Pigment epithelium-derived factor inhibits retinal and choroidal neovacularization," Journal of Cellular Physiology, 118(2) 253-263 (2001)
Noonberg et al., In vivo generation of highly abundant sequence-specific oligonucleotides for antisense and riplex gene regulation," Nucleic Acids Research 22(14):2830-2836 (1994)

EXAMINER	AMU	DATE CONSIDERED	7/6/06
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Sheet 22 of 29

FORM PTO-1449 (Rev. 2-32)	U.S. Department of Commerce Patent and Trademark Office	Atty. Docket No.	Serial No.
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(Use several sheets if no	ecessary)		·
		Applicant:	
		McSwiggen et al.	
		Filing Date:	Group:
		January 12, 2004	

*	Norrby, "Angiogenesis: new aspects relating to its initiation and control," APMIA 105:417-437 (1997)
٠	Novina et al., "siRNA-Directed Inhibition of HIV-1 Infection," Nature Medicine 1-6 (2002)
•	Nykanen et al., "ATP Requirements and Small Interfering RNA Structure in the RNA Interference Pathway," Cell 107:309-321 (2001)
•	Ohkawa et al., "Activities of HIV-RNA Targeted Ribozymes Transcribed From a 'Shot-Gun' Type Ribozyme-trimming Plasmid," Nucleic Acids Symp. Ser. 27:15-16 (1992)
•	Ohno-Matsui, et al., "Inducible Expression of Vascular Endothelial Growth Factor in Adult Mice Causes Severe Proliferative Retinopathy and Retinal Detachment," <i>Animal Models</i> from the Departments of Ophthalmology and Neuroscience and Molecular Biology and Genetics, <i>Am. J. Pathology</i> , 160, 711-719 (2002)
*	Ojwang et al., "Inhibition of Human Immunodeficiency Virus Type 1 Expression by a Hairpin Ribozyme," Proc. Natl. Acad. Sci. USA 89:10802-10806 (1992)
•	Oku et al., "Real-time analysis of liposomal trafficking in tumor-bearing mice by use of positron emission tomography," Biochimica et Biophysica Acta 1238:86-90 (1995)
•	Ono et al., "DNA Triplex Formation of Oligonucleotide Analogues Consisting of Linker Groups and Octamer Segments That Have Opposite Sugar-Phosphate Backbone Polarities," Biochemistry 30:9914-9921 (1991)
•	O'Reilly et al., "Angiostatin: A Novel Angiogenesis Inhibitor That Mediates the Suppression of Metastases by a Lewis Lung Carcinoma," Cell 79:315-328 (1994)
	Orgis et al., "DNA/polyethylenimine transfection particles: Influence of ligands, polymer size, and PEGylation on internalization and gene expression," AAPS PharmSci., 3 (3) article 21 ( <a href="http://www.pharmsci.org">http://www.pharmsci.org</a> ) p. 1- 11 (2001)
•	Ormerod et al., "Effects of Altering the Elcosanoid Precursor Pool on Neovascularization and Inflammation in the Alkali-burned Rabbit Comea," American Journal of Pathology 137:1243-1252 (1990)
•	Pal-Bhadra et al., "Heterochromatic Silencing and HP1 Localization in <i>Drosophila</i> Are Dependent on the RNAi Machinery," <i>Science</i> , 303, 669-672 (2004)

	EXAMINER	DATE CONSIDERED .
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FORM PTO-1449 (Rev. 2-32)	U.S. Department of Commerce Patent and Trademark Office	Atty. Docket No.	Serial No.
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		McSwiggen et al.	
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		January 12, 2004	·

No.	•	Pandey et al., "Role ov B61, the Ligand for the Eck Receptor Tyrosine Kinase, in TNF-α-Induced Angiogenesis," Science 268:567-569 (1995)
	•	Pardridge et al., "Vector-mediated delivery of a polyamide ("peptide") nucleic acid analogue through the blood-brain barrier in vivo," Proc. Natl. Acad. Sci. USA 92:5592-5596 (1995)
	•	Parrish, "Functional Anatomy of a dsRNA Trigger: Differential Requirement for the Two Trigger Strands in RNA Interference," Molecular Cell 6:1077-1087 (2000)
	•	Passaniti et al., "A Simple, Quantitative Method for Assessing Angiogenesis and Antiangiogenic Agents Using Reconstituted Basement Membrane, Heparin, and Fibroblast Growth Factor," Laboratory Investigation 67:519-528 (1992)
	•	Paul et al., "Effective Expression of Small Interfering RNA in Human Cells," Nature Biotechnology 20:505-508 (2002)
	•	Perreault et al., "Mixed Deoxyribo- and Ribo-Oligonucleotides with Catalytic Activity," Nature 344:565-567 (1990) (often mistakenly listed as Perrault)
	*	Petersen et al., "Polyethylenimine-graft-Poly(ethylene glycol) Copolymers: Influence of Copolymer Block Structure on DNA Complexation and Biological Activities as Gene Delivery System, <i>Bioconjugate Chem.</i> , 13, 845-854 (2002)
	•	Pieken et al., "Kinetic Characterization of Ribonuclease-Resistant 2'-Modified Hammerhead Ribozymes," Science 253:314-317 (1991)
	•	Pierce et al., "Vascular endothelial growth factor/vascular permeability factor expression in a mouse model of retinal neovascularization," Proc. Natl. Acad. Sci. USA 92:905-909 (1995)
	•	Plate, "Vascular endothelial growth factor is potential tumor angiogenesis factor in human gilomas in vivo," Nature 359:845-848 (1992)
	•	Ponpipom et al., "Cell-Specific Ligands for Selective Drug Delivery to Tissues and Organs," J. Med. Chem. 24:1388-1395 (1981)

EXAMINER	hou	DATE CONSIDERED	2/15/06

FORM PTO-1449 (Rev. 2-32)	U.S. Department of Commerce Patent and Trademark Office	Atty. Docket No.	Serial No.
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FORM PTO-1449 (Rev. 2-32)	U.S. Department of Commerce Patent and Trademark Office	Atty. Docket No.	Serial No.
		02-742-N	10/758,155
1	INFORMATION DISCLOSURE STATEMENT BY APPLICANT	(400/142)	
(	Use several sheets if necessary)		
		Applicant:	
		McSwiggen et al.	
		Filing Date:	Group:
		January 12, 2004	

M.	Seela and Kaiser, "Oligodeoxyribonucleotides containing 1,3-propanediol as nucleoside substitute," Núcleic Acids Research 15:3113-3129 (1987)
•	Senger et al., "Vascular permeability factor (VPF, VEGF) in tumor biology," Cancer and Matastasis Reviews 12:303-324 (1993)
	Shabarova et al., "Chemical ligation of DNA: The first non-enyzmatic assembly of a biologically active gene," Nucleic Acids Research 19:4247-4251 (1991)
•	Sharp, Philip A., "RNAi and Double-strand RNA", Genes and Development 13:139-141 (1999)
*	Sheehan et al., "Biochemical properties of phosphonoacetate and thiophosphonoacetate oligodeoxyribonucleotides," <i>Nucleic Acids Research</i> , 31 (14), 4109-4118 (2003)
•	Shifren et al., "Ovarian Steroid Regulation of Vascular Endothelial Growth Factor in the Human Endometrium: Implications for Angiogenesis during the Menstrual Cycle and in the Pathogenesis of Endometriosis," The Journal of Clinical Endocrinology & Metabolism 81:3112-3118 (1996)
*	Shweiki et al., "Patterns of Expression of Vascular Endothelial Growth Factor (VEGF) and VEGF Receptors in Mice Suggest a Role in Hormonally Regulated Angiogenesis," J. Clin. Invest. 91:2235-2243 (1993)
•	Simantov et al., "Dopamine-Induced Apoptosis in Human Neuronal Cells: Inhibition by Nucleic Acids Antisense to the Dopamine Transporter," Neuroscience 74(1):39-50 (1996)
	Sommer et al., "The Spread and Uptake Pattern of Intracerebrally Administered Oligonucleotides in Nerve and Glial Cell Populations of the Rat Brain," Antisense & Nucleic Acid Drug Development 8:75-85 (1998)
	Strauss, Evelyn, "Molecular Biology: Candidate 'Gene Silencers' Found" Molecular Biology, 286: 5441, p.886 (1999)
Pu:	Sullenger and Cech, "Tethering Ribozymes to a Retroviral Packaging Signal for Destruction of Viral RNA," Science 262:1566-1569 (1993)
	Sun, "Technology evaluation: SELEX, Giliad Sciences Inc," Current Opinion in Molecular Therapeutics 2:100-105 (2000)

EXAMINER	DATE CONSIDERED 2	115	196
			V

**Sheet 26 of 29** 

FORM PTO-1449 (Rev. 2-32)	U.S. Department of Commerce Patent and Trademark Office	Atty. Docket No.	Serial No.
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		Applicant:	
		McSwiggen et al.	
		Filing Date:	Group:
		January 12, 2004	

$\overline{}$		
	1:	Taira et al., "Construction of a novel RNA-transcript-trimming plasmid which can be used both in vitro in place of run-off and (G)-free transcriptions and in vivo as multi-sequences transcription vectors," Nucleic Acids Research 19:5125-5130 (1991)
	•	Takahashi et al., "Markedly Increased Amounts of Messenger RNAs for Vascular Endothelial Growth Factor and Placenta Growth Factor in Renal Cell Carcinoma Associated with Angiogenesis," Cancer Research 54:4233-4237 (1994)
	•	Thomas et al., "Enhancing polyethylenimine's delivery of plasmid DNA into mammalian cells," PNAS, 99, 14640-14645 (2002)
	*	Thompson et al., "Improved accumulation and activity of ribozymes expressed from a tRNA-based RNA polymerase III promoter," Nucleic Acids Research 23:2259-2268 (1995)
	*	Turner et al., "Improved Parameters for Prediction of RNA Structure," Cold Spring Harbor Symposia on Quantitative Biology Volume LII, pp. 123-133 (1987)
	*	Turner et al., "Free Energy Increments for Hydrogen Bonds in Nucleic Acid Base Pairs," J. Am. Chem. Soc. 109:3783-3785 (1987)
	•	Tuschl et al., "Targeted mRNA Degradation by Double-Stranded RNA In Vitro," Genes & Development 13:3191-3197 (1999)
	•	Tuschl et al., "Small Interfering RNAs: A Revolutionary Tool for the Analysis of Gene Function and Gene Therapy," <i>Molecular Interventions</i> , 295, 3, 158-167 (2002)
	•	Tuschl, "RNA Interference and Small Interfering RNAs," Chembiochem 2:239-245 (2001)
	•	Tyler et al., "Peptide nucleic acids targeted to the neurotensin receptor and administered i.p. cross the blood-brain barrier and specifically reduce gene expression," Proc. Natl. Acad. Sci. USA 96:7053-7058 (1999)
		Tyler et al., "Specific gene blockade shows that peptide nucleic acids readily enter neuronal cells in vivo," FEBS Letters 421:280-284 (1998)
		Uhlmann et al., "Studies on the Mechanism of Stabilization of Partially Phosphorothioated Oligonucleotides Against Nucleolytic Degradation," Antisense & Nucleic Acid Drug Development 7:345-350 (1997)

EXAMINER,	OHS	MA SMILE	DATE CONSIDERED 7	106

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication.

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	ral sheets if necessary)		
		Applicant:	
		McSwiggen et al.	•
		Filing Date:	Group:
		January 12, 2004	

•	Ui-Tei et al., "Guidelines for the selection of highly effective siRNA sequences for mammalian and chick RNA interference," Nucleic Acids Research, 32, 3, 936-948 (2004)
*	Usman and Cedergren, "Exploiting the chemical synthesis of RNA," TIBS 17:334-339 (1992)
•	Usman and McSwiggen, "Ch. 30 - Catalytic RNA (Ribozymes) as Drugs," Annual Reports in Medicinal Chemistry 30:285-294 (1995)
•	Usman et al., "Automated Chemical Synthesis of Long Oligoribonucleotides Using 2'-O-Silylated Ribonucleoside 3'-O-Phosphoramidites on a Controlled-Pore Glass Support: Synthesis of a 43-Nucleotide Sequence Similar to the 3'-Half Molecule of an Escherichia coli Formylmethoionine tRNA," J. Am. Chem. Soc. 109:7845-7854 (1987)
*	Usman et al., "Chemical modification of hammerhead ribozymes: activity and nuclease resistance," Nucleic Acids Syposium Series 31:163-164 (1994)
•	Ventura et al., "Activation of HIV-Specific Ribozyme Activity by Self-Cleavage," Nucleic Acids Research 21:3249-3255 (1993)
•	Verdel et al., "RNAi-Mediated Targeting ofHeterochromatin by the RITS Complex, Science, 303, 672-676 (2004)
*	Verma and Eckstein, "Modified Oligonucleotides: Synthesis and Strategy for Users," Annu. Rev. Biochem. 67:99-134 (1998)
•	Volpe et al., "Regulation of Heterochromatic Silencing and Histone H3 Lysine-9 Methylation by RNAi," Science 297:1833-1837 (2002)
٠	Waterhouse, et al. "Virus Resistance and gene Silencing in Plants Can Be Induced by Simultaneous Expression of Sense and Antisense RNA" Proc. Natl. Acad. Sci. USA 99:13959-13964 (1998)
•	Weckbecker et al., "Intradermal angiogenesis in nude mice induced by human tumor cells or b-FGF," Angiogenesis Key Principles—Science—Technology—Medicine pp296-301 (1992)

EXAMINER	DATE CONSIDERED

FORM PTO-1449 (Rev. 2-32)	U.S. Department of Commerce Patent and Trademark Office	Atty. Docket No.	Serial No.	
INFORMATION DISC		02-742-N (400/142)	10/758,155	
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		McSwiggen et al.		
		Filing Date:	Group:	
		January 12, 2004		

PI	•	Weerasinghe et al., "Resistance to Human Immunodeficiency Virus Type 1 (HIV-1) Infection in Human CD4+ Lymphocyte-Derived Cell Lines Conferred by Using Retroviral Vectors Expressing an HIV-1 RNA-Specific Ribozyme," Journal of Virology 65:5531-5534 (1994)
7	•	Wellstein and Czubayko, "Inhibition of Fibroblast Growth Factors," Breast Cancer Research and Treatment 38:109-119 (1996)`
	*	Wianny and Zernicka-Goetz et al., "Specific Interference with Gene Function by Double-Stranded RNA in Early Mouse Development," Nature Cell Biology 2:70-75 (2000)
	*	Wincott et al., "Synthesis, deprotection, analysis and purification of RNA and ribozymes," Nucleic Acidş Research 23(14):2677-2684 (1995)
	•	Wincott et al., "A Practical Method for the Production of RNA and Ribozymes," Methods in Molecular Biology 74:59-69 (1997)
	*	Woo et al., "Taxol Inhibits Progression of Congenital Polycystic Kindey Disease," Nature 368:750-753 (1994)
	•	Wu and Wu, "Receptor-mediated in Vitro Gene Transformation by a Soluble DNA Carrier System," The Journ. of Biol. Chem. 262:4429-4432 (1987)
	*	Wu et al., "Cardiac Defects and Renal Failure in Mice with Targeted Mutations in Pkd2," Nature Genetics 24:75-78 (2000)
	•	Wu-Pong et al., "Nucleic Acid Drug Delivery, Part 2; Delivery to the Brain," _ 32-38 (1999)
	•	Yamada et al., "Nanoparticles for the delivery of genes and drugs to human hepatocytes," Published online: 29 June 2003, doi:10.1038/nbt843 (August 2003 Volume 21 Number 8 pp 885-890) (2003)
	,	Yu et al., "A Hairpin Ribozyme Inhibits Expression of Diverse Strains of Human Immunodeficiency Virus Type 1," Proc. Natl. Acad. Sci. USA 90:6340-6344 (1993)
W	•	Zamore et al., "RNAi: Double-Stranded RNA Directs the ATP-Dependent Cleavage of mRNA at 21 to 23 Nucleotide Intervals," Cell 101:25-33 (2000)

				L
EXAMINER	DATE CONSIDERED	9	115	96
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FORM PTO-1449 (Rev. 2-32)	U.S. Department of Commerce Patent and Trademark Office	Atty. Docket No.	Serial No.
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		Applicant:  McSwiggen et al.	
,		Filing Date: January 12, 2004	Group:

$\mathcal{M}$	٠	Zhou et al., "Synthesis of Functional mRNA in Mammalian Cells by Bacteriophage T3 RNA Polymerase," Mol. Cell. Biol. 10:4529-4537 (1990)
	•	Ziche et al., "Angiogenesis Can Be Stimulated or Repressed In Vivo by a Change in GM3:GD3 Ganglioside Ratio," Laboratory Investigation 67:711-715 (1992)

EXAMINER DATE CONSIDERED

FORM PTO-1449 (Rev. 2-32) SUPPL	U.S. Department of Commerce Patent and Trademark Office EMENTAL INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Atty. Docket No. 02-742-N (400/142)	Serial No. 10/758,155
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#### **U.S. PATENT APPLICATION DOCUMENTS**

Examiner Initial		Document Number	Filing Date	Name	Class	Subclass	Publication Date if Appropriate
In	*	US 2003/0190635	10/2003	McSwiggen et al.			
	سع	US 2003/0206887	11/2003	Morrissey et al.			

#### **U.S. PATENT DOCUMENTS**

	Examiner Initial	Document Number		Date	Name	Name Class		Filing Date if Appropriate
5	M	*	6,346,398	02/12/02	Pavco et al.		_	

### FOREIGN PATENT DOCUMENTS

		••	Document Number	Date	Country	Class	Subclass	Trans	lation
								Yes	No
	Ľψ	•	1325955	07/09/03	EP (Klippel-Giese et al.)				
Ľ	d	•	08208687	08/1996	JP (Hotoda et al.)				
$ \downarrow $	DI		94/11499	05/26/94	WO (Ullrich et al.)				

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		McSwiggen et al.			
		Filing Date:	Group:		
		January 12, 2004			

		*	94/21791	09/29/94	WO (Bergmann et al.)		
	_	*	95/04142	02/09/95	WO (Robinson)		
		*	95/13380	05/18/95	WO (Draper et al.)		
		*	97/00957	01/09/97	WO (Patterson-Winston et al.)		
		•	97/21808	06/19/97	WO (Robinson)		
			99/04819	02/04/99	WO (Klimuk et al.)		
		•	99/55857	11/04/99	WO (Beigelman et al.)		
	$\wedge$		00/21560	04/20/00	WO (Alitalo et al.)		
		*	01/097850	12/27/01	WO (Siemeister et al.)		
		. 1	02/07747	01/31/02	WO (King)	 	
		. /	02/10378	02/07/02	WO (Cowsert et al.)		
		. /	02/096927	12/05/02	WO (Escobdeo et al.)		
			03/068797	08/21/03	WO (Rossi et al.)		
		•	03/070887	08/28/03	WO (McSwiggen et al.)		
	Ш		03/070896	08/28/03	WO (McSwiggen et al.)		
		. 7	03/070910	08/28/03	WO (McSwiggen et al.)		
		. /	03/074654	09/12/03	WO (McSwiggen et al.)		
	1		03/080638	10/02/03	WO (Lacasse et al.)		
ے	7	*	04/009769	01/29/04	WO (Tolentino et al.)		

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	reral sheets if necessary)	Applicant:  McSwiggen et al.				
•		Filing Date: January 12, 2004	Group:			

# OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc).

WO (Li et al.)

	X	1	*	Anderson et al., "Bispecific Short Hairpin siRNA Constructs Targeted to CD4, CXCR4, and CCR5 Confer HIV-1 Resistance," Oligonucleotides, 13:303-312 (2003)
	7		•	Bayard et al., "Increased stability and antiviral activity of 2'-O-phosphoglyceryl derivatives of (2'-5')oligo(adenylate)," Eur. J. Biochem., 142(29):291-298 (1984)
<	1	4	<b>\*</b>	Hasan et al., "VEGF antagonists," Oncologic, Metabolic & Endocrine, 703-718 (2001)
K	PR	4	•	International Search Report for PCT/US03/05022 mailed January 6, 2005
	1		*	International Search Report for PCT/US2004/016390 mailed March 31, 2005
			*	International Search Report for PCT/US2004/027403 mailed July 12, 2005
			•	International Search Report for PCT/US2004/030488 mailed January 12, 2005
	1	2	*	Jen et al., "Suppression of gene Expression by Targeted Disruption of Messenger RNA: Available Options and Current Strategies," Stem Cells, 18:307-319 (2000)
	X	1	<u>`</u>	Kuwabara et al., "A C. elegans patched gene, ptc-1, functions in germ-line cytokinesis," Genes and Development, 14(15):1933-1944 (2000)
		1	•	Lu et al., "Tumor Inhibition By RNAi-Mediated VEGF an VEGFR2 Down Regulation in Xenograft Models," Cancer Gene Therapy, 10, Suppl. 1, S4-S5 (2003)
	1		*	Parry et al. 1999. "Bioactivity of anti-angiogenic ribozymes targeting Flt-1 and KDR mRNA," Nucleic Acid Res. 27:2569-77
			*	Shibuya et al., "Nucleotide sequence and expression of a novel human receptor-type tyrosine kinase gene (flt) closely related to the fms family," Oncogene 5:519-524 (1990)

		1		
EXAMINER			DATE CONSIDERED	_
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EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication.

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